Natural Resources Analysis

List of Figures

Natural Resources Analysis

This chapter of the plan describes the primary natural resources in and around Eau Claire that should be considered when planning for development, protection and public improvements. It summarizes the key opportunities and constraints presented by this pattern of resources and includes a list of issues to be addressed in the plan.

Eau Claire occupies a very attractive and supportive location in the western Wisconsin landscape, and the natural attributes conferred by this position provide a sense of well-being and harmony that contributes greatly to the local quality of life. Used properly, the rivers and wooded hills can also be used to attract employers and well-paying jobs, tourists, artists and retirees.

Major Natural Resources Issues

Issues are questions to be discussed, debated and resolved during the planning process in light of the other issues. These are the major natural resources issues identified through the analysis of conditions:

1. **River and Creek Shoreline Land Use:** What is the most appropriate pattern of land use along the rivers and creeks?

2. **Public Access to Rivers and Creeks:** Where, if anywhere, should additional public access to the rivers and creeks be created?

3. **River Flooding:** Should the City acquire additional houses from the floodplain in the North Riverfronts Neighborhood and other floodplain areas?

4. **Riverbank Stabilization:** Should there be greater emphasis placed on natural means of riverbank stabilization as opposed to rip-rap or concrete?

5. **Water Quality:** What actions should the City take to maintain or improve the quality of water entering the Chippewa and Eau Claire Rivers?

6. **Habitat Restoration:** Where should wildlife habitat and stream restoration be conducted?

7. **Steep Slopes:** Should the City adopt its own development regulations for steep slopes that supercede the slope controls that are mandated by the U*rban Sewer Service Area Plan*?

8. **Grading Control:** Should the City prepare an ordinance that requires comprehensive grading plans to be prepared for plats and site plans and that regulates all other site grading beyond a stated quantity?

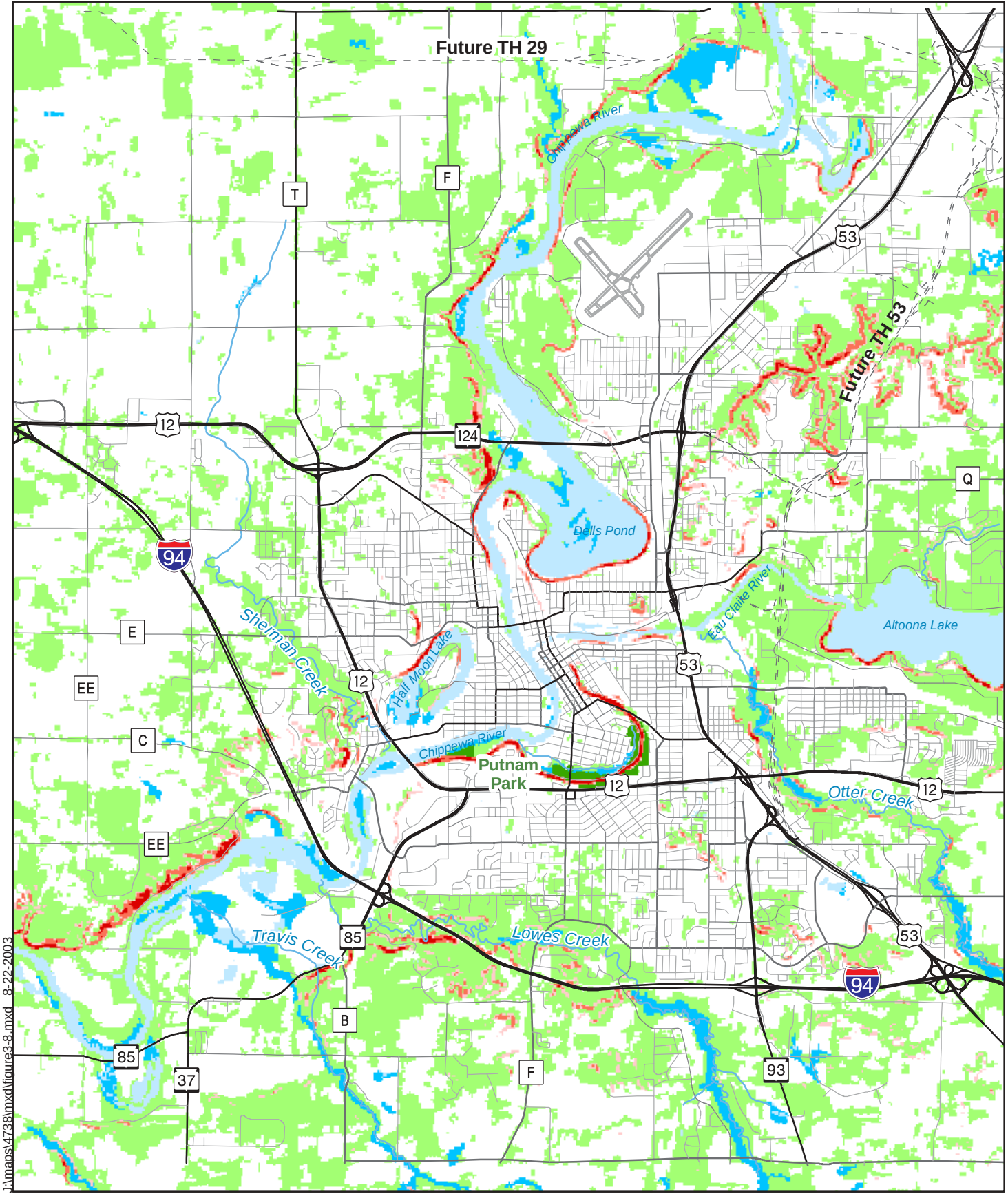
9. **Highly Productive Farmlands:** How important is it to restrain the outward growth of the city in order to protect productive farmlands? Can the City gain the cooperation of the nearby Towns, especially Union and Wheaton, in restraining semi-rural large-lot housing?

10. **Tree Preservation:** Should the City adopt an ordinance requiring builders to replace lost trees at a certain ratio?

11. **Half Moon Lake:** To what degree should the water quality be improved in Half Moon Lake?

12. **Building Setbacks:** Should the city consider a building setback greater than 30 feet from the ordinary high water mark of streams and wetlands for new development? Should a buildings setback from blufflines be adopted?

The shoreline of the Eau Claire River upstream of the Farwell Street bridge is heavily wooded.



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Eau Claire Comprehensive Plan

Streams		**Steep Slopes**	
Forest		20-25%	
Wetland		25.1-35%	
Open Water		> 35%	

1 Square Mile — 160 Acres

0 Feet 5,280

Figure 4-1

Major Natural Features

Rivers and Creeks

Eau Claire is rich in water resources, being located at the confluence of the Chippewa and Eau Claire Rivers and served by six watersheds (See Figure 4-1):

- Sherman Creek
- Upper Chippewa River
- Lower Chippewa River
- Eau Claire River
- Otter Creek
- Lowes Creek

Chippewa River

The Chippewa River made Eau Claire and it sustains it. For several decades, the Chippewa transported logs from the northern forests to sawmills along its banks and also provided water power for those mills below Dells Pond, where logs were gathered.

The upper and lower reaches of the Chippewa are highly scenic, lined with hills and trees. The stretch below downtown and near the University offers dramatic views from the bluffs. Dells Pond and the reach to the north is popular with boaters who enjoy the sandy banks, many islands and broad expanse of water. A dam above downtown regulates water flow and sustains the water level in Dells Pond. Near downtown, the rocks placed on the bank for erosion control detract from the natural appearance of the river.

Large portions of the Chippewa are lined with public open space, and there are several places where people can launch a boat. However, along the river there is also industry, businesses and open storage.

In the downtown, most buildings turn their back on the water and fail to take advantage of the amenity. Pedestrians can stroll along the river in only a few places on the east side, and the environment is foreboding. On the western bank, the river is mostly lined with parkland, and the Chippewa River State Trail follows this bank from Phoenix Park downriver toward the Cedar River and Menomonie.

Because there are approximately 25 miles of Chippewa riverfront in the City of Eau Claire, how the river edge is used is highly important. Thus, one of the major questions confronting the community is what should be the pattern of riverfront land use and, especially, how much public parkland should there be along the river?

The 1993 comprehensive plan calls for increased Chippewa Riverfront parkland and a continuous public trail along:

- The western shore from Clairemont Avenue to the Xcel Energy substation near Dells Pond
- Trails on the southern or eastern banks through the University
- From Downtown, through Mount Simon Park, around Dell's Pond and up to Riverview Park.

Eau Claire River

The Eau Claire River is a minor stream compared to the Chippewa. Its flow is regulated by a dam below Altoona Lake, and it runs in a gorge past heavy industry, business, parkland and downtown, barely noticed by those who drive over it on the three bridges.

The southern bank of the Eau Claire in the City of Altoona is undeveloped and, thus, presents an opportunity to extend riverfront parkland from Archery Park in the City of Eau Claire. That land may be developed after US 53 is realigned through it and Birch Street is extended across the river to intersect it.

The 1993 plan calls for a public trail along both sides of the river from the S-Bridge near Banbury Place out to Hastings Way. That path is planned to continue along the north side of the river to the right-of-way of the new US 53, where there would be another trail.

It is at the confluence of the two rivers that magic occurs. Standing on the point in Phoenix Park, one can look in three directions and watch the water flow and eddy, and the rivers seem broad and powerful.

Lowes Creek

Lowes Creek runs out of Washington Township and through the southernmost portion of Eau Claire. (Actually, it only appears to be in the City, as the adjacent neighborhoods are still in the township.) This beautiful stream winds beneath wooded hills and through marshy floodplains toward the Chippewa River downstream of the I-94 bridge. Most of the creek edges are lined with large residential lots, although a local conservancy group has acquired some easements to protect the natural integrity of the stream bank.

Lowes Creek County Park straddles the creek south of I-94 and provides wonderful spots for picnicking, walking and other passive recreation.

Otter Creek

Urbanization is just approaching Otter Creek, which basically marks the dividing line between the City of Eau Claire and the City of Altoona. The creek floodplain is broad, marshy and wooded, as the stream meanders madly across the flat plain. Recently, a land developer donated a large tract of undevelopable lowland to the City for open space purposes. It is hoped that other, similar properties can be obtained and linked into a creek greenway.

The 1993 comprehensive plan calls for a public trail along that portion of Otter Creek south of CTH AA.

Sherman Creek

Sherman Creek represents another possibility for creating a linear park or greenway through a future residential area. Such public parklands have been shown in other cities to be a major force in both raising the quality of nearby neighborhoods and sustaining them over time. If the nearby neighborhoods are allowed visual and physical access to the greenway via public streets, the positive effects of the greenway can extend far back into the neighborhood. Milwaukee, Minneapolis and St. Paul are cities where that phenomenon has been measured.

Sherman Creek rises as a minor stream in the farmlands of Wheaton Township and winds its way lazily across the plain. Near Sherman School, it enters a gorge it carved, and gains intensity as it moves toward the Chippewa River near Clairemont Avenue, nearly connecting with Half Moon Lake. The creek valley south of Cameron Street is broad and steep, and houses line the bluff about half the way down the creek valley from there.

Half Moon Lake

The City of Eau Claire prepared a set of recommendations in 2002 aimed at improving the water quality in Half Moon Lake. The City was assisted by the Wisconsin DNR and numerous local groups and individuals. The study had seven goals: Improve water quality, become a self-sustaining fishery, create a clean and protected shoreline, minimize motor boat impacts, harvest aquatic plants, prepare a plan to improve watershed management, improve recreation. and educate and involve citizens.

Views of Carson Park and Half Moon Lake have a "North Woods" quality to them.

Floodplains and Wetlands

Floodplains

For the most part, the floodwaters of the Chippewa and Eau Claire Rivers are confined to the floodways below the steep stream banks. However, there are several significant locations that are subject to the so-called 100-year and 500-year floods. The 100-year floodplains of note include:

- Several blocks along the east side of Forest Street; houses west of Forest Street were recently acquired and cleared to create parkland along the Chippewa River
- Portions of the Central Business District west of Graham Street
- Several block east of Second Avenue in the Courthouse District and east of Luther Hospital; some of this land is public open space but it also contains a number of houses
- Large portions of Putnam Park
- Property inland of Riverview Park, including the park and a residential neighborhood.

The recent acquisition of several houses west of Forest Street is a model example of alleviating a longstanding community problem and turning it into an asset to the neighborhood. While that may not be the ideal solution for every instance of urban development in the floodplain, it is increasingly seen as preferable to levees, floodwalls and repeated flooding and cleanup.

Land use and development in the floodplains are regulated by Chapter 18.11 of the Zoning Ordinance, Floodplain Overlay District. The floodplains and floodways are shown on the Official Floodplain Zoning Map, which is based on maps prepared by the Federal Emergency Management Agency.

Wetlands

There a relatively few wetlands in and around Eau Claire because of its Hills, sandy soils and glacial history. Many of the wetlands that originally existed where the city now stands were drained and filled. Protective regulations have been instituted during the past 25 years to reduce or prevent the filling, or encroachment upon wetlands, whether they have standing water or have chronically wet soils, as they are all important to aquifer recharge, flood reduction, water cleansing and wildlife habitat.

Wetlands are protected in Eau Claire through the site plan and subdivision review powers of the City. The specific chapters of the Zoning Ordinance that protect wetlands are:

- **Chapter 18.12, Shoreland-Wetlands Overlay District:** Defines the location of wetlands through the final wetland inventory map that was adopted as part of this chapter. Describes the permitted and non-permitted uses of wetlands, the use of non-conforming structures that presently exist in wetlands and the submittal requirements for review and approval of a site development plan. This zoning district does not appear on the City's official zoning map as do other zoning districts. This district supplements the base zoning district by first identifying wetlands with the adopted wetlands inventory map and next by field investigation by a natural resources professional. The Shoreland-Wetlands Overlay District is mandated by the State of Wisconsin.

- **Chapter 18.08, Conservancy District:** Allows protection of wetlands (and other natural features) that are located in these mapped districts. The Conservancy District appears on the official zoning map like any other mapped district, such as the R-1 residential district.

Shorelands

Land within 300 feet of the high water mark of designated streams or 1,000 feet of the high water mark of a designated lake is protected by the City's Shoreland-Wetland Overlay District. That district is designed to protect the natural features of the shorelands, including flood storage, water quality protection, wildlife protection and natural beauty. Land development is permitted consistent with the base or underlying zoning but is limited by the imperatives of natural resource protection.

The Chippewa River shoreline in Eau Claire includes both natural and artificial treatments.

Surfacewater Management

Flood Control

Surfacewater management consists of flood or runoff control and water quality management. Flood control in Eau Claire is now well engineered and regulated for the most part as a result of improvements recommended by studies prepared in 1991 and 2000. The entire city has been studied on a sub-basin basis, and the City has detailed topographic maps superimposed over aerial photographs.

Water Quality Management

Eau Claire has begun a program of actions to implement Wisconsin Rules NR 151 (Runoff Management) and NR 216 (the Wisconsin Pollution Discharge Elimination System). That plan will be the basis for a permit from the Wisconsin Department of Natural Resources, which will specify the practices that the City will follow to protect water quality. Some runoff control is presently exercised by the City through Section 16.36.040 of the City Code, but that section only applies to one- and two-family dwellings and will soon be broadened to address all land development and disturbance. .

The Wisconsin Department of Natural Resources presently regulate the quality of water flowing into the rivers and creeks in Eau Claire, and those controls would be replaced by the Permit resulting from the surfacewater quality management plan mentioned above.

Stormwater Utility

The City has established a stormwater utility through Chapter 19 of the City Code. That ordinance allows the city to levy a fee on all properties to cover the cost of constructing and maintaining improvements needed to handle surfacewater ponding and drainage plus administrative costs.

Slopes

Steep slopes are a significant component of the natural environment in Eau Claire and help guide land development, roads, parks and utilities. These wooded hillsides add significantly to the natural beauty, character and sense of place that Eau Claire enjoys.

Figure 4-1 illustrates the major locations of steep slopes, most of which are associated with the Chippewa River and its tributaries:

- Around Dells Pond and to the north along the historic floodway of the upper portion of the Chippewa River
- Along the Chippewa River as it flows past the University of Wisconsin campus
- Along lower Sherman Creek and in the Washington Heights neighborhood
- Across northern Washington Township, including the Lowes Creek valley
- Along the Otter Creek valley.
- Isolated hills such as Mount Tom

Grading steep slopes and cutting trees on steep slopes is not directly regulated by the City Code except through negotiation during the site plan review process.

Grading steep slopes and cutting trees on steep slopes is regulated by the City through the site plan and subdivision review process. No buildings are allowed on slopes greater than 20 percent, based on the requirements of the E*au Claire-Chippewa Falls Urban Sewer Service Plan for 2010*. Unfortunately, the *Sewer Service Plan* does not prohibit placement of parking lots on slopes greater than 20 percent, which is a major loophole in the state's regulation. Also, the City has no control over grading outside the site plan or subdivision review process nor does it regulate grading of slopes less than 20 percent, which can also be a source of problems. The City does not require that a grading plan be submitted with a site plan or a subdivision plat, which leads to many erosion and water runoff problems.

The City should consider including in the zoning and subdivision ordinance its own steep slopes regulations that are at least as restrictive as those of the state.

Special Natural Areas

Putnam Park is a steep, wooded gorge and an ancient oxbow of the Chippewa River located in the heart of the city. It is beautiful, quiet and secluded and used for walking, enjoying nature and teaching ecology. The land was donated to the City with the provision that it be kept in a natural state. Its only development, then, is Putnam Drive, which links through the university campus along with the greenway to the Chippewa River.

Agricultural Lands

In the Towns of Union, Wheaton and Seymour there are some soils rated as prime for agriculture. Figure 4-1, Major Natural Resources, indicates their approximate location. While these soils are not considered as sensitive as some other natural resources, they are still an irreplaceable and finite natural resource of importance for food production. Large-lot, semi-rural housing on private wells and sewage systems consume as much if not more valuable farmland than does urban housing.

Environmental Corridors Mapped in the Sewer Service Plan

Major natural features will be referenced when preparing plans and policies for land use, roads, parks and resource protection.

Sensitive environmental areas were mapped by the West Central Wisconsin Regional Planning Commission when that agency prepared the *Eau Claire-Chippewa Falls Urban Sewer Service Plan for 2010.* The purpose of considering environmental features when determining a sewer service area is to help preserve and protect valuable areas from urban development. To do that, environmental corridors were determined and urban growth is prohibited from occurring there. Included were:

- Wetlands
- Shoreland
- Floodplains
- Steep slopes
- Prime farmlands
- Historic areas

Those features are shown in general fashion on Figure 4-1, Major Natural Features, and described elsewhere in this section.

Any subdivision or certified survey maps in the Sewer Service Area must indicate the location of any Environmental Corridors and the pertinent natural resources. The City can then apply the regulations appropriate to each protected natural resource.